

DETAILED ACTION

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Gordon Lindeen on 05/21/2008.

a. The following is the replacement for the original abstract submitted on 09/28/2001. Some embodiments store a training sequence in a communications system. The stored training sequence exhibits certain desirable characteristics when used by a peak to average power constrained modulation format. In one embodiment, a set of original ordered sequences is selected to have at least one desired property. A set of extended sequences is created from the original sequences by beginning with an element of an original sequence and cyclically appending elements of the original sequence in order to obtain a desired extended sequence length. Each extended sequence is modified using a corresponding modifying sequence, such that a training sequence can be generated from any one of the modified extended sequences. Each modifying sequence is selected so that the generated training sequence when modulated by a selected modulation format has the at least one desired property of the corresponding original ordered sequence.

- b. Claim 1, line 13, has been changed as following: number pair multiplied by $\exp(2\pi/M)$, wherein M is a positive integer greater than 1;
- c. Claim 4, lines 1 and 2 have been replaced as following: The method of claim 1, wherein the one desired property is a cross-correlation property, the method further comprising: generating further
- d. Claim 19, line 14, has been changed as following: number pair multiplied by $\exp(2\pi/M)$, wherein M is a positive integer greater than 1;
- e. Claim 22, line 15, has been changed as following: number pair is equal to the previous complex number pair multiplied by $\exp(2\pi/M)$, wherein M is a positive integer greater than 1, to

Allowable Subject Matter

- 2. Claims 1, 3-6, 10-13, and 18-24 are allowed. The following is an examiner's statement of reasons for allowance: As to claims 1, 19, and 22, a comprehensive search of prior art of record failed to teach, either alone or in combination, a method comprising:

A method comprising: creating a set of extended sequences, each based on an original ordered sequence of a set of ordered sequences by beginning with an element of the original ordered sequence of the set of ordered sequences, cyclically appending elements of the original ordered sequence of the set of ordered sequences in order to obtain a desired extended sequence length comprising at least one subsequence, and modifying each extended sequence using a corresponding modifying sequence by multiplying each element of each extended sequence by a corresponding element of the

modifying sequence, the modifying sequence comprising a sequence of pairs of equal complex numbers, such that each complex number pair is equal to the previous complex number pair multiplied by $\exp(2\pi/M)$; such that a training sequence can be generated from any one of the modified extended sequences, the modifying sequence being selected so that the obtained training sequence when modulated by a $2\pi/M$ – MPSK modulation format has the at least one desired property of the corresponding original ordered sequence.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LEILA MALEK whose telephone number is (571)272-8731. The examiner can normally be reached on 9AM-5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on 571-272-3021. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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